

Applicants respectfully disagree with the Examiner's assertion that the phrase, "connected in a conjugated system" is functional language. A "conjugated system" is a structural recitation.

Applicants submit herewith a excerpt (page 582) of the ENCYCLOPEDIA OF CHEMISTRY (1st ed., 1989 published by Tokyo Kagaku Dozin Co., Ltd.), which provides a definition for the term "conjugation" as further evidence that the recitation "conjugation system" is no a functional recitation but a structural recitation. The Encyclopedic Dictionary defines "conjugation" as:

A conjugation is a state in which two or more multiple bonds in a molecule connect with each other through only one single bond between adjacent two of the connected multiple bonds, and interact mutually. A system including such single and multiple bonds is referred to as a conjugated system. In a case where atoms having a positive electric charge, unpaired electron or pair of non-conjugated electrons interact across multiple and single bonds, it is said that the atoms are conjugated with the multiple bond. In a conjugated system, a pi-electron delocalization (resonance) is generally observed, and a single bond between multiple bonds exhibits a property like a multiple bond. For exemplary example, the single bond in the conjugated system has a shorter bond distance than that of a normal single bond. (A single bond in butadiene has a bond distance of 1.48 angstrom. On the other hand, the normal single bond has a bond distance of 1.54 angstrom). In a spectrum of the conjugated system, properties unexplained from a just gathering of isolated multiple bonds are observed. For example, an absorption wavelength of an ultraviolet absorption shifts to a longer wavelength side of the spectrum and the absorption become stronger in the spectrum.

In view of the above, Applicants submit that it is clear that the phrase "conjugation system" is structural not functional language.

In Paragraph No. V of the Action, "the elected invention of claims 2, 6, 9-10, 12, 17-20 and 21" is provisionally rejected for obviousness-type double patenting as allegedly being unpatentable over claims 2-8 and 16 of co-pending Appln. No. 10/361,505.

In Paragraph No. VI, "the elected invention of claims 2, 6, 9-10, 12, 17-20 and 21" is provisionally rejected for obviousness-type double patenting as allegedly being unpatentable over claims 17-20 of co-pending Appln. 10/613,044 as amended on 22 February 2005.

In Paragraph No. VII of the Action, "the elected invention of claims 2-4, 6, 9-10, 12, 17-20 and 21" is provisionally rejected for obviousness-type double patenting as allegedly being unpatentable over claims 3-4, 6, 8, 11-12, 14, 16 and 18 of co-pending application 10/654,942.

The Examiner states that while the conflicting claims are not identical, they are not patentably distinct from each other because "they contain the same or about the same requisite chemical ingredients which are not found to be patentably different or distinct."

As to the co-pending '505 application, Applicants respectfully traverse the rejection.

The species elected by Applicants, that is, compound A-1 at page 22 of the present specification, is within the scope of formula (3) in claim 3 of the '505 application. Further, the genus of formula (III) of the co-pending application and the genus of the formula (1) of the present claims overlap.

However, Applicants reiterate that there is nothing in claims 2-8 and 16 of the '505 application which discloses or suggests that the positive resist composition should include the compound (A) of present claim 2 in an amount of from 3.6 to 15 weight % based on the solids content of the composition. This requirement of the present claims is completely missing in the '505 application claims.

As to the co-pending '044 application, Applicants respectfully traverse the rejection.

In regard to claim 16 of the co-pending '044 application, elected compound A-1 at page 22 of present specification is within the scope of formula (VIII) in claim 16. See claim 13, from which claim 16 depends. Also, the genus of formula (VIII) and the genus of formula (1) of present claim 2 overlap.

However, Applicants reiterate that claim 16 (which depends from claim 13) recites (D1) an alkali-soluble resin. It does not disclose or suggest a resin capable of increasing in solubility in an alkali developer under the action of an acid, as recited in present claim 2.

Further, there is nothing in claim 16 which discloses or suggests that the composition comprises the compound (A) in an amount from 3.6 to 15 weight % based upon the solids content of the composition, as recited in present claim 2.

As to claims 17-20 of the co-pending '044 application, none of these claims disclose or suggest that the composition should comprise the compound (A) in an amount of from 3.6 to 15 weight % based on the solids content of the composition, as recited in present claim 2. Applicants traverse the rejection at least on these bases.

As to the co-pending '942 application, Applicants respectfully traverse the rejection.

Elected species A-1 at page 22 of the present specification is within the scope of formula (1) in claim 3 of the co-pending application. Also, formula (1) of the co-pending application and formula (1) of the present application overlap. However, Applicants reiterate that as in the case of the other co-pending applications, there is nothing in the co-pending '942 application claims which discloses or suggests that the composition should include the compound (A) in an amount

of from 3.6 to 15 weight % based on the solids content of the composition, as recited in the present claims.

With respect to all of the double patenting rejections, none of the relied-upon claims of the co-pending applications disclose or suggest the particular combination of repeating units recited in present claim 3 for the resin (D), nor do any of the claims of the co-pending applications disclose or suggest the molar ratio of those repeating units as recited in present claim 4. These are further bases of distinction over the claims of the co-pending applications.

Additionally, Applicants submit herewith a Declaration under 37 C.F.R. § 1.132 with comparative data to establish that the claimed invention including the specific acid generator in the specific amount provides unexpectedly superior results in the pattern profile and resolution of isolated reverse line pattern as compared with the '505 application, the '044 application, and the '942 application.

For all of these reasons, Applicants respectfully traverse the obviousness-type double patenting rejections set forth in Paragraphs VI, VII, and VII of the Action. Reconsideration and withdrawal of the rejections is respectfully requested.

In Paragraph No. VIII, the "elected invention of claims 2, 6, 9-10, 12, 17-20 and 21 with respect to the elected and applied species" is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sinta et al (U.S. 5,731,364) and Sato et al (U.S. 6,238,842).

As a preliminary matter, the Examiner appears to misunderstand what is meant by conjugated hydrocarbon structure, as recited in claim 2 and claim 18. As stated above, the Examiner has also mistakenly taken the position that the expression "a conjugated hydrocarbon

structure” is a functional recitation. As discussed above, the recitation “conjugated system” is not a functional recitation but a structural recitation. Please see our comments above.

Additionally, Applicants present herewith an excerpt from the Encyclopedic Dictionary of Chemistry, to explain the meaning of a conjugated hydrocarbon structure.

As stated in the previous response, Applicants submit that this rejection should be withdrawn because Sinta et al and Sato et al do not disclose or render obvious the positive resist composition of the present invention.

The Examiner states that Sinta et al discloses and teaches a positive resist composition comprising a sulfonium and its counter ion “being read within the general formula I as claimed and resin being read on the type as claimed,” pointing to compound (A) at column 6, lines 1-22 of Sinta et al and Example 2 of Sinta et al.

Again, Applicants respectfully submit that the compound (A) at column 6, lines 1-22 of Sinta et al is not within the scope of formula (1) of the present claims. In this regard, the central sulfur atom in compound (A) of Sinta et al is not found in the compounds of formula (1) of present claim 2.

As to Example 2 of the Sinta et al, which begins at column 18, line 60 of Sinta et al, the Examiner apparently relies upon this example because it employed, among other compounds, the compound (A) relied upon by the Examiner. See Sinta et al at column 19, lines 15-17. As discussed above, compound (A) is not within the scope of the present invention. Thus, Example 2 of Sinta et al does not disclose or render obvious the positive resist of the present invention.

With respect to present claims 3 and 4, there is no disclosure or suggestion in Sinta et al of the use in combination of repeating units represented by formula (IV) and formula (V) as recited in present claim 3, let alone in the molar ratio recited in present claim 4. See generally the disclosure cited by the Examiner at column 8, line 31 to column 9, line 51 of Sinta et al.

As to Sato et al '842, this document does not make up for the deficiencies of Sinta et al, although it does, as stated by the Examiner, disclose the use of a nitrogen-containing basic compound.

In view of the above, Applicants respectfully request that the § 103 rejection of claims 2, 6, 9-10, 12, 17-20 and 21 over Sinta et al and Sato et al be reconsidered and withdrawn.

The "elected invention of claims 2, 6, 9-10, 12, 17-20 and 21 with respect to the elected and applied species" is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Inoue et al (U.S. 6,406,830).

As a preliminary matter, the Examiner appears to misunderstand what is meant by conjugated hydrocarbon structure, as recited in claim 2 and claim 18. As stated above, the Examiner has also mistakenly taken the position that the expression "a conjugated hydrocarbon structure" is a functional recitation. As discussed above, the recitation "conjugated system" is not a functional recitation but a structural recitation. Please see our comments above.

Additionally, Applicants present herewith an excerpt from the Encyclopedic Dictionary of Chemistry, to explain the meaning of a conjugated hydrocarbon structure.

Appln. No.: 10/606,845
Response under 37 C.F.R. § 1.116

Additionally, as stated in the previous response, Applicants submit that this rejection should be withdrawn because Inoue et al does not disclose or render obvious the positive resist composition of the present invention.

Present claim 2 recites that at least two of the X⁺s connected with B are in a conjugated system. The meaning of this phrase is explained at page 19 of the present specification. The aliphatic sulfonium salts represented by formula (I) of Inoue et al do not satisfy this requirement. That is, the group connecting the sulfur ions in formula (I) of Inoue et al does not have a conjugated structure. Nor does Inoue et al suggest such a structure.

In view of the above, Applicants respectfully request that the § 103 rejection of claims 2, 6, 9-10, 12, 17-20 and 21 over Inoue et al be reconsidered and withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Appln. No.: 10/606,845
Response under 37 C.F.R. § 1.116

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CUSTOMER NUMBER

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